

S
CONTROL, R-4
Insect
Annual Report, 1943

March 22, 1944.

Chief, Forest Service
Washington, D. C.

Dear Sir:

We have the following to report regarding the insect infestation situation and control work done in Region 4 for the calendar year 1943.

With the exception of the Wasatch, the situation is not too alarming. There are no other large, widespread epidemics of serious proportions - except perhaps the epidemic in Douglas fir - which is fortunate, as the manpower is not available for large projects. Work continues on several of the forests on a scale sufficient to keep the situation in hand and we consider ourselves fortunate in being able to do as much as we have under present conditions.

1. Mountain Pine Beetle (*D. monticolae* Hopk.)

a. Ashley N. F.

The Ashley is barely able to hold its own. (See map attached.) No very large projects can be undertaken due to the manpower shortage and where as jobs are pretty well cleaned up when work is undertaken, new epidemics are found each fall.

The fall survey (map attached) indicated the following to treat:

Hoops Lake	-	1,000 trees
Louse Creek	-	300 "
Dahlgren	-	140 "

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SUMMIT MOUNTAIN VIEW

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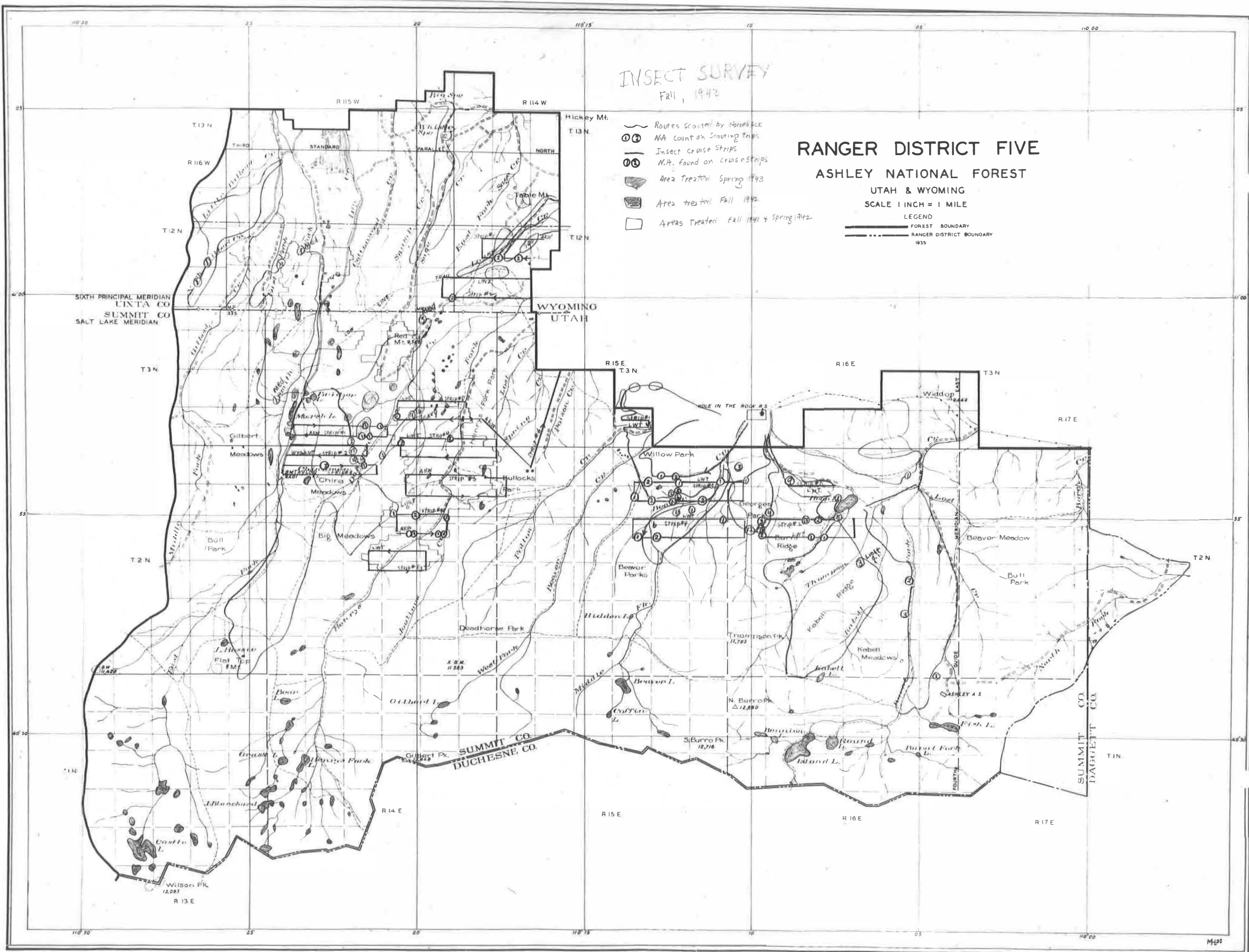
INSECT SURVEY
Fall, 1942

RANGER DISTRICT FIVE ASHLEY NATIONAL FOREST

UTAH & WYOMING
SCALE 1 INCH = 1 MILE

LEGEND
FOREST BOUNDARY
RANGER DISTRICT BOUNDARY
1935

- Routes Scouted by Horseback
- NA Count on Scouting Trips
- Insect Cruise Strips
- MA found on cruise strips
- Area treated Spring 1943
- Area treated Fall 1942
- Areas treated Fall 1941 & Spring 1942



The Louse Creek unit was treated this fall with a total of 651 trees found and treated. This leaves an estimated 1,300 trees to treat on the Hoops Lake and Dahlgren units.

Last spring by the use in large part of contributed time of the regular Forest personnel it was possible to treat some 657 trees. This is about half the amount to be treated this spring and it therefore is somewhat doubtful the infestation can be cleaned up at that time. Every effort will, however, be made to do so and if a five- or six-man crew of temporary men can be hired it may be possible by the use of ortho to about complete the job.

The survey map previously referred to indicates the host area was well inspected and it is believed the infested areas were well located. If such is the case the situation is not alarming although the Supervisor states "We view with alarm the spread of bark beetles in the vast areas of lodgepole pine which there are on this Forest".

The Supervisor states he has all the funds he will be able to use this fiscal year.

b. Minidoka N. F.

A year ago the Minidoka reported 105 trees treated and that the infestations generally were in a "weak endemic stage". However, during the summer of 1943 the situation did not appear as promising to the local Forest personnel as it had in the spring and Mr. Evenden was asked to make an examination of the suspected areas. He reported after his examination of September 7 as follows: "The local personnel have done a splendid job in holding the losses to a minimum. The procedure employed is to use the fading foliage as a means of locating infested trees for treatment. Although this method is quite effective the work period is short and some trees are missed. However, in areas where infested trees were missed there has been a sharp increase in the severity of the infestation. In some instances groups of 13 or more 1943-attacked trees seem to have originated from two or three untreated trees. The increased potentials of the 1942 infestation seem extremely high and I consider that the existing infestation could develop into another serious infestation. To do this it will be necessary to make an extensive survey."

The survey has been made and a total of 745 trees found and recommended for treatment. Of this number 281 have been treated this fall and it is planned to treat the balance next spring by falling and burning followed by treatment with ortho when burning becomes dangerous and expensive.

It is estimated sufficient funds have been made available to the Forest to complete the job.

c. Wasatch N. F.

The situation on the Wasatch is not serious although we would feel more satisfied had labor been available so a final clean-up could have been effected.

A roadside and vantage point observational survey by Dr. Wygant and Mr. Miles made in August 1943 and which covered both sides of the Wasatch with the exception of Rock-Fish Creek indicated (1) nothing on the north side (all units from the west to the east boundaries); (2) a few hot spots in the Echo Lake area of the Mirror Lake unit and also a few on the Spring Canyon area of the Broadhead-Haystack unit; (3) other portions of the south side units (exclusive of Rock and Fish Creeks) well cleaned up. The Iron Mine unit and the area along the Provo River road had been well cleaned up in the spring work.

The fall survey pretty well confirmed these observations (see attached map and summary). The hot spots in the Mirror Lake unit totaled 120 trees, those on the Broadhead-Haystack 680. The Iron Mine unit was reduced to 320 trees on 6,074 acres or an average of but .05 per acre. Rock Creek totaled 4,320 and Fish Creek 2,640. Very little was found on the Granddaddy Lakes unit - .05 per acre.

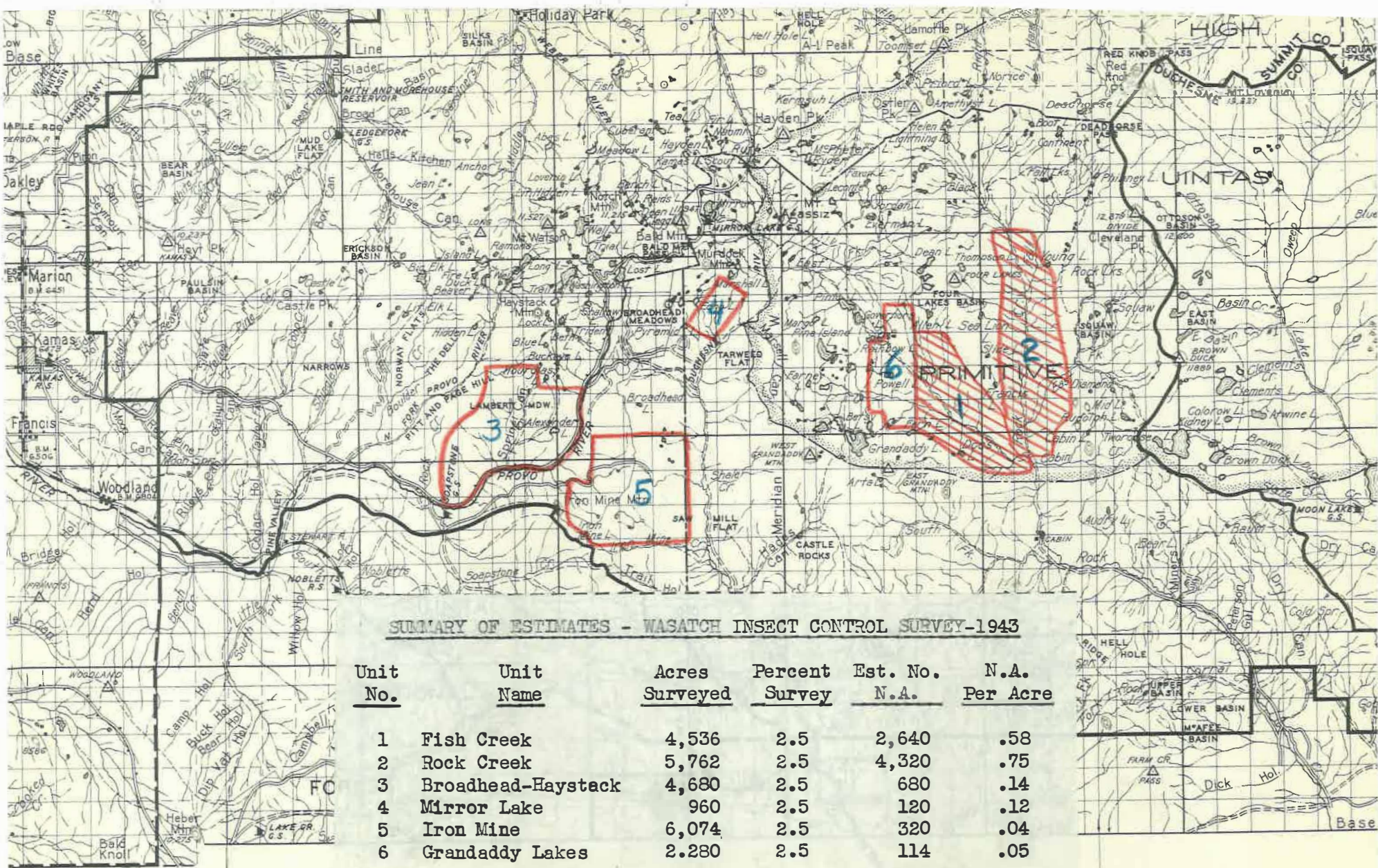
The history of the Rock-Fish Creek units is as follows:

<u>Year</u>	<u>Fall Survey New Attacks</u>	<u>Treated After Survey</u>
1939	4,300	488
1940	11,592	-
1941	15,560	-
1942	8,563	236
1943	6,960	-
1944	12,260	

The data indicate that the peak of the epidemic was reached in 1941 and is now on the down grade although the change between 1942 and 1943 is hardly conclusive evidence as it is based on 2-1/2 percent estimates. However, Dr. Wygant and Mr. Groves who is in charge of insect control work on the Wasatch both feel confident the epidemic is still on the decline.

The data also indicate the futility of small operations which, while not planned that way, due to difficulties encountered in the work, worked out in that manner.

We would like to clean up these units but it is estimated a 30-man crew would be the minimum which could clean up the Fish Creek unit in one



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UINTA SPECIAL
MERIDIAN
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R.7W.

R.6W.



Area Recommended For Treatment

operation plus a clean-up job. If this could be done we feel we would have removed the main threat to values in the primitive areas of the Granddaddy Lakes region as Rock Creek is now isolated from this unit. It is doubtful, however, that a crew of this size can be obtained. A crew of 25 was obtained last year and used on work on the Iron Mine unit. This crew was largely high school boys and while the output was satisfactory a great deal of difficulty was experienced in obtaining satisfactory work, in operating a camp, and in preventing accidents. It is possible a small crew similarly composed will be obtained this spring for clean-up work on the Mirror Lake and Broadhead-Haystack units but the manpower situation is becoming so "tight" it is doubtful a competent crew can be obtained for the Fish Creek job. Unless we are confident the crew we can obtain can clean up this unit in one operation, we believe it a waste of money to make the attempt as mere reduction work does not pay out.

We are keeping in touch with the evacuee and prisoner-of-war situation. No Japanese evacuees are available as they have either been well dispersed or farmed out for work. Italian prisoners of war are used exclusively on army work and their number is, of course, not increasing. German prisoners of war are not available at least at present. Our understanding is that the Division of Forest Products in Washington has stated "representatives of the W.P.B. and W.M.C. stated there was no intention of using the prisoners in the lumbering industry west of the Rockies". We also have found "the army is skeptical of being able to use German prisoners of war, which is all that are available at this time, very effectively in the timber. They feel that guarding the prisoners under these conditions would present a considerable handicap to the effective use in lumbering operations."

We will, however, canvass the situation and advise your office regarding the prospects on April 15 and May 15 as requested in your letter of November 30, 1943.

Field Tests and Experiments.

The 6:1 ratio of mix for the ortho spray method was adopted as standard practice during the season of 1943. The method was apparently entirely successful.

A series of small scale field tests were run in late June under the direction of Dr. Wygant, as follows:

1. To make more visible the sprayed portion of the tree. Powdered tale was used with no success. The amount necessary to make the area visible made its use prohibitive. The tale also failed to stay in suspension in the oil.

2. To reduce certain faults of pressure sprayers. It was felt that often the pressure was a disadvantage in spraying felled trees. Chemical often is wasted due to "spatter" and the sprayers are subject to mechanical failure. The attempt was made therefore to locate sprinkling cans with the proper head for the desired feed. A suitable sprinkler head has not yet been found although there seems to be no good reason why one cannot be made. The Wasatch have other objections which it may or may not be possible to overcome. They state "the spray from the sprinkling can has quite a constant pressure and so requires a constant rate of progress along the log to give uniform coverage. It is usually difficult to maintain this constant speed. With the pressure pump the desired spray may be more easily adjusted to necessary changes in forward movement. Also considerably more effort is required to carry the sprinkler at the most efficient distance from the log than is needed in carrying the back-pack spray pump."

3. Emulsifiers and other tests. Dr. Wygant reports (July 7) "tests were made using emulsions of orthodichlorobenzene and ethylene dichloride. A paper cover was placed over some of the sprayed logs to see if such covers would improve the results with emulsions. A sealer coat with a concentrated solution of calcium chloride was also sprayed on some of the sections after the emulsion was applied. The results of the tests will be checked in July after which a complete memorandum on the tests will be prepared." All of these tests met with entirely negative results.

b. Other Forests

Other forests with the exception of the following make no mention of infestations due to this insect or state there are no infestations.

Cache: The Cache had a small project on Eight Mile Creek on the north end of the forest treating some 55 in groups of six to twelve trees. They state there are no epidemics or hot spots elsewhere but it is recommended that if possible Mr. Evenden check again on the Cache during the coming season.

Targhee: See remarks under the heading "Douglas Fir Beetle".

2. Black Hills Beetle (*D. ponderosae* Hopk.)

a. Ashley N. F.

A bad situation seems to be developing on the Manila district of this Forest.

A year ago we reported that clean-up work on rather strong groups was necessary - that during 1942 some 157 trees were treated - and that the Supervisor estimated about 100 trees needed treatment in the spring of 1943.

U S DEPARTMENT OF AGRICULTURE
FOREST SERVICE
F A SILCOX, CHIEF
T W NORCROSS, CHIEF ENGINEER

ASHLEY NATIONAL FOREST UTAH AND WYOMING

SALT LAKE, UINTA SPECIAL AND
SIXTH PRINCIPAL MERIDIANS

1939

S
CONTROL - Ashley
Insect

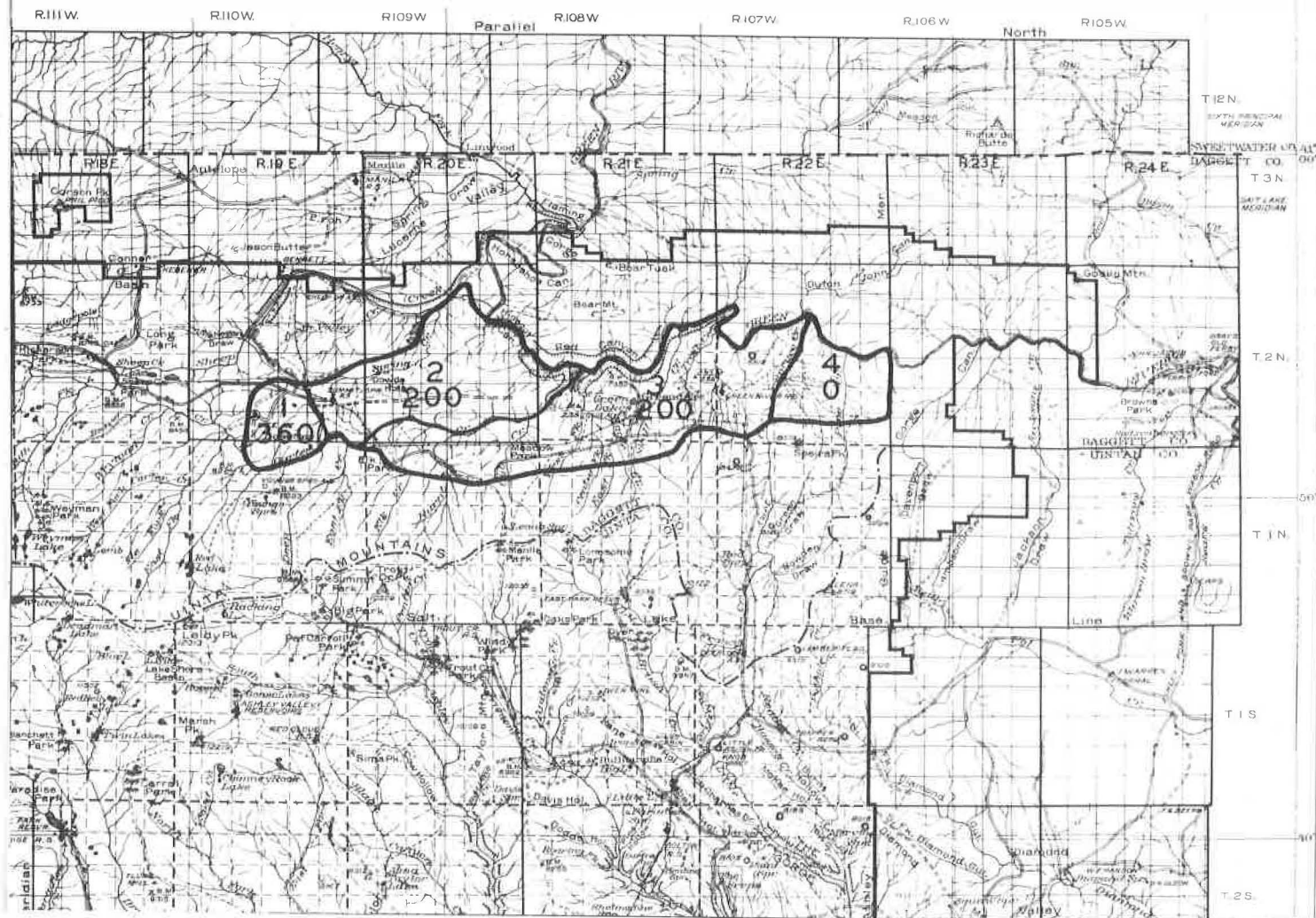
LEGEND

Fall 1943 Survey - Ponderosa Pine

1 Unit

360 New attacks

- Unit 1 - Lost Spring
2 - Bowd Hole
3 - Green Lakes
4 - Little Hole



S CONTROL - Powell
Insect Control Survey - Fall - 1948

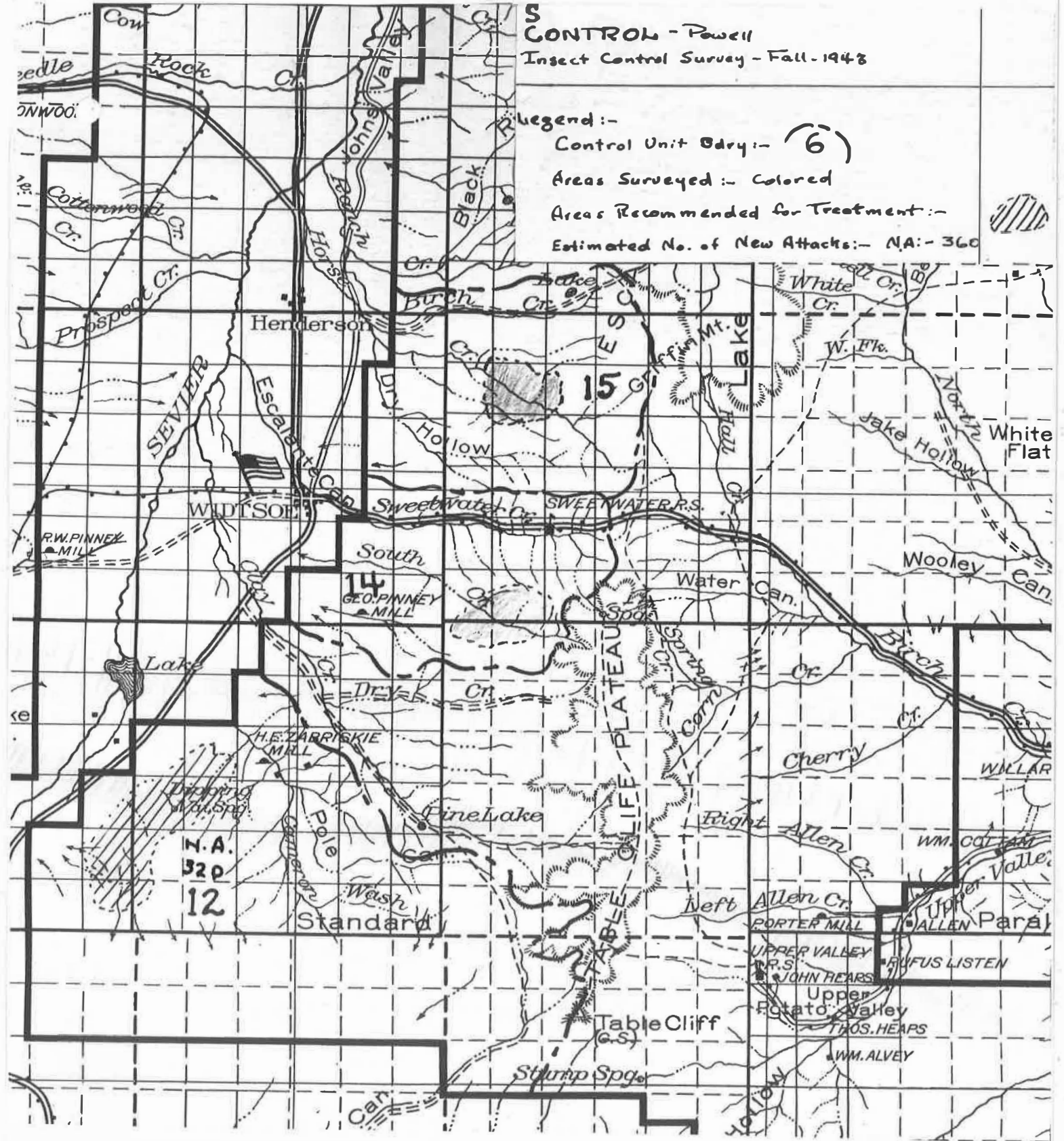
Legend:-

Control Unit Gary:- (6)

Areas Surveyed:- Colored

Areas Recommended for Treatment:-

Estimated No. of New Attacks:- N.A.:- 360



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CONTROL - Powell
 Insect Control Survey - Fall - 1943

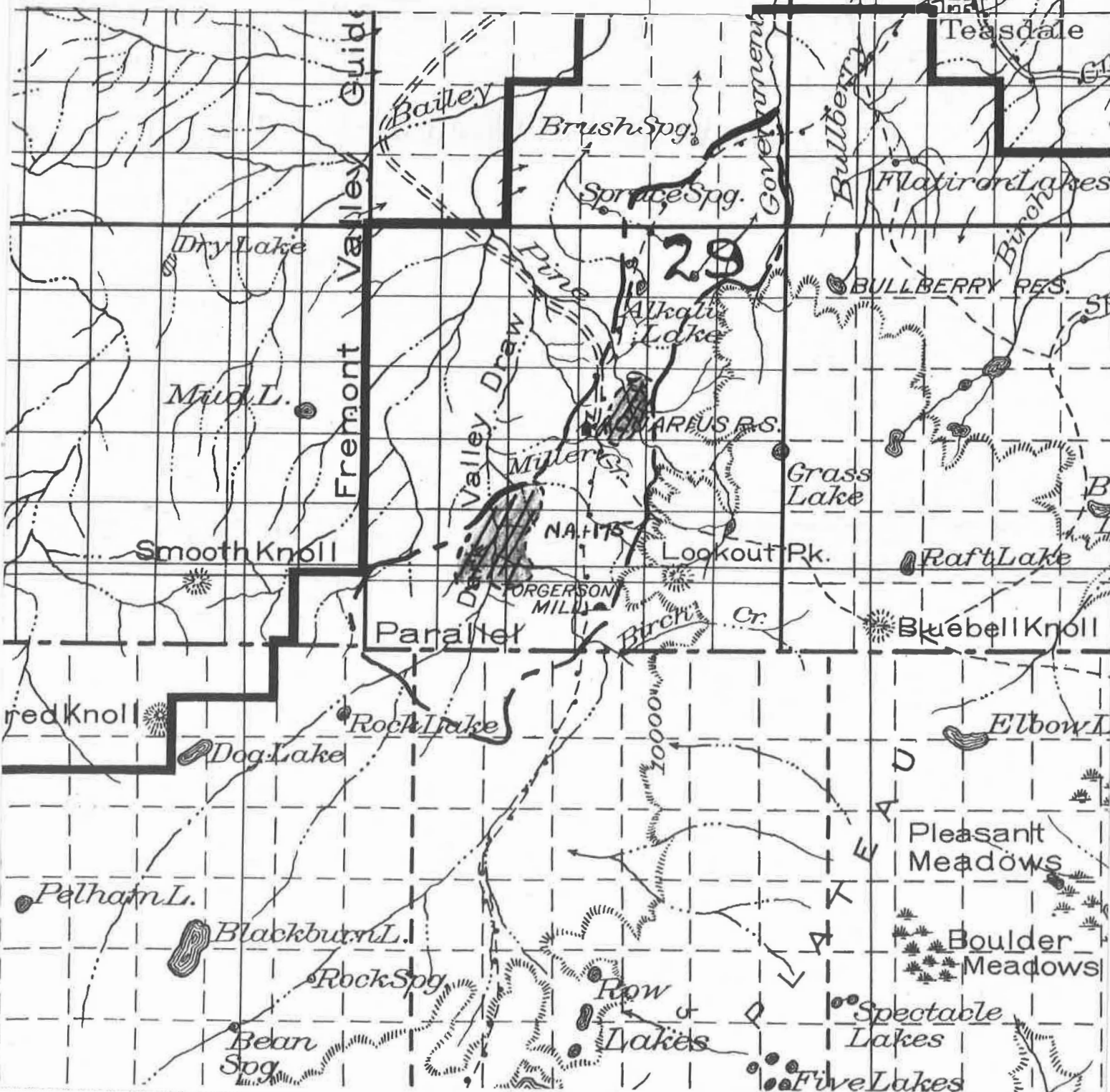
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Control Unit Dry:- (6)

(2) as Surveyed:- Colored

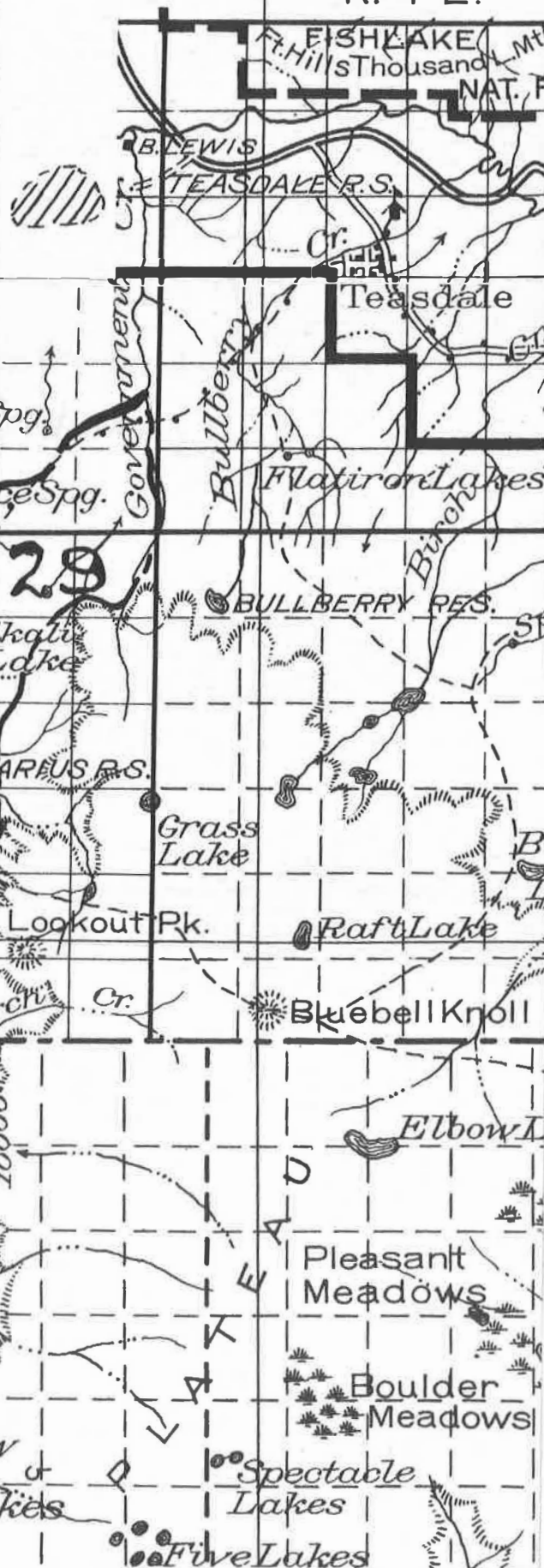
Areas Recommended for Treatment:-

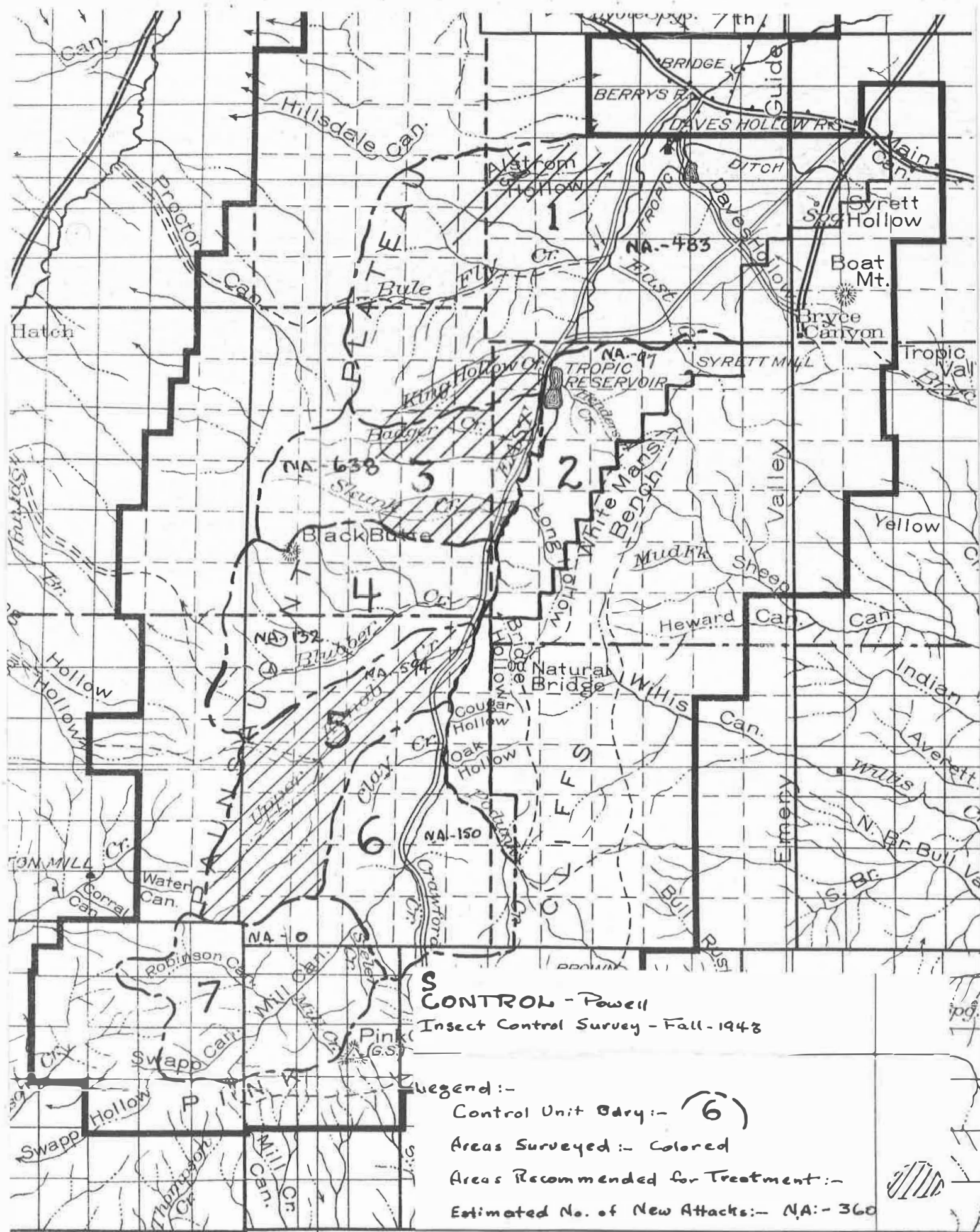
Estimated No. of New Attacks:- N.A:- 360



S
CONTROL - Powell
 Insect Control Survey
 Fall - 1943

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R. 4 W.

R. 3 W.

In the spring of 1943, 362 trees were treated on this unit. A formal 2-1/2 percent fall survey was made of this unit in the fall of 1943 and a total of 760 trees found and recommended for treatment. (See attached map.) In the fall and winter control work a total of 673 trees have been treated and it is reported that on one unit treated (Lost Spring) a total of 567 trees was found, this being an overrun on the estimate of almost 60 percent.

This situation needs checking this season by Dr. Wygant as apparently the infestation is building up rather rapidly. Also there is another problem which is causing us some concern which needs checking on. It is policy to girdle wolf and defective trees on sales on this area and the ranger reports the girdled trees are favored "bug bait". This matter will be further checked as girdling is standard practice on similar areas on the Dixie and Powell. If girdling is accelerating the build-up of the infestation some other means of treatment of wolf and defective trees will be in order. Forest officers on the Powell, with whom this matter has been discussed have not noted any build-up in insects due to the girdling of unmerchantable trees.

The Supervisor states "We are confident the infestation in ponderosa pine can be handled" and also that he has on hand all the funds that can be used.

b. Dixie N. F.

The infestations on the Dixie have been reduced and have subsided to such an extent that it is no longer possible to make operations pay out especially under present wage scales and overtime provisions.

A year ago we reported it appeared there were about 475 trees to be treated on four small areas in 1943. In the spring of 1943, 553 trees were treated. In August of 1943 Dr. Wygant and Mr. Miles of this office made an examination of the Dixie and came to the following conclusions "the red tops appear to be more abundant than last year. No centers of heavy infestation were observed. No intensive survey is recommended because of the nature of the infestation. The continuation of annual control work on a maintenance basis is recommended. With the continuation of the drought conditions in southern Utah there is danger of the infestation building into epidemic conditions. The infestation at present is estimated as being strong endemic. A close vigilance should be maintained by the forest officers and control work carried out where deemed advisable".

With these thoughts in mind clean-up work was resumed in the fall of 1943. However, with no surveys or preliminary scouting except the "red-top" survey to indicate in advance about where infested trees were to be found costs soon ran into such disproportionate figures that work was soon abandoned. It was found that infested trees were so scattered that a control crew could not locate them speedily enough to "make it pay". Contrary to expectation few newly attacked trees were found near

"red tops". In previous years clean-up work was conducted in a similar manner but during the fall local forest officers had noted definite centers of infestation. In 1943, however, no definite centers were noted.

After control work had been abandoned formal surveys were made of three areas where the presence of red tops led us to believe control work might be necessary with results as follows:

<u>Unit</u>	<u>Infested Trees</u>	<u>Area</u>
Henry Knolls	40	4.5 sections
Black Mountain	100	5.5 "
Lars Fork	20	2.8 "

This is an average of but one tree per 50 acres. It also is reported that the attacks were light and singles well scattered. It is concluded, therefore, that these being the heaviest infestations on the Dixie that until or unless cheap labor can be secured clean-up or maintenance work on the Dixie can no longer be conducted.

c. Fishlake N. F.

The block of 2,100 M of ponderosa pine on the east side of the Thousand Lake Mountain area is in practically the same status as reported on last year. This timber was advertised for sale in 1941 but no bids were received due to the inaccessibility of the stand, the limited amount of timber, and therefore the high costs involved. Dr. Wygant and Mr. Miles examined this timber last August and Dr. Wygant reported "the epidemic of the Black Hills beetle has subsided. Because of the inaccessibility of this pine and the limited isolated stand no control was recommended when the area was examined three years ago. Nothing further is recommended at this time." We agree.

d. Powell N. F.

Contrary to our hopes of a year ago it was not possible to so reduce the infestations on the Powell during 1943 that only slight maintenance work would suffice. The units in which hot spots were found in the fall survey of 1942 were well cleaned up the following winter and spring but the fall survey of 1943 indicated new hot spots had developed. We would agree with Mr. Farmer's conclusions "There has been no let-up in the aggressiveness of infestations on the Forest since the epidemics were first noted in the summer and fall of 1935. Continued action from then until now has resulted in very definite control of the beetle but it must be emphasized that there must be no let-up in control measures or slackening of vigilance which would most certainly result in another widespread epidemic." Dr. Wygant states: "That the aggressiveness of the infestation has not let up can be illustrated, etc."

The 1942 survey indicated all infestations in endemic condition except the Horse Creek unit (15) with an estimated 584 new attacks and the Park unit (2) with an estimated 1,296 trees to treat. A total of 516 trees on the former and 1,187 on the latter unit were treated and the fall survey of 1943 showed but 0.27 and 0.14, respectively, new attacks per ten acres on these units, which indicated a good clean-up had been made there. During the year of 1943 other changes occurred as follows:

<u>Unit</u>	<u>1942 Survey</u>	<u>1943 Treated</u>	<u>1943 Survey</u>
Bluefly (1)	561	456	483
Badger (3)	242	-	638
Kanab (5)	171	-	594
Cameron (12)	-	-	320
Dark Valley (29)	-	-	175

Of these units the first three had been formally surveyed, and the latter two scouted with negative results in the fall of 1942. The 1943 survey indicated that on all five of these units further work is necessary. The work done on the Bluefly unit did not result in a final clean-up as is indicated above.

Plans have been made to clean up these units during the spring of 1944 and a total of 490 trees on the Badger unit have been treated this winter.

The Forest reports "the labor shortage has not affected us here and we have been able to secure the men needed." They also state "it is anticipated there will be sufficient funds to complete control as outlined."

3. Douglas Fir Beetle (*D. pseudotsugae* Hopk.)

a. Targhee N. F.

A year ago we reported that "epidemic infestations on this Forest were confined to the eastern portion of the Spencer district and the South Shotgun area along the north side of Bishop Mountain. Timber cutting is being carried on in these areas. Stoddard's sale embraces the heaviest infestation on the Spencer district and the Montana and Idaho Lumber Company is cutting on a sale in the South Shotgun area. The latter is the operation that is being worked by Japanese-Eskimo labor."

Apparently the latter named operator over-extended his cutting operations in view of difficulties later encountered. Mr. Evenden reported under date of September 11, 1943: "In this area there were some 800,000 board feet of Douglas fir logs cut last winter and spring. None of these logs have been removed and it is apparent that they have absorbed a large

portion of the Douglas fir beetle emergence from the 1942-attacked trees. Logs which were cut prior to May 1943 were attacked by the beetles which emerged in May. Logs cut during May and June are now infested with late June and July attacks. The beetle broods in this material are large and the emergence next spring and summer will be extremely heavy. Although predictions regarding such situations are not infallible one must assume that the beetles emerging from this material will attack adjacent standing trees. Obviously these logs should be removed prior to May 1, 1944. If this is impossible then an additional supply of logs should be made available to absorb this infestation and the logs could be removed later in the season."

This was a serious situation as unless these logs could be removed in time we stood to have the cutting area severely damaged either by infestation or by having to cut reserved trees for trap logs. Strenuous efforts, therefore, were made to have the operator remove these logs. While the operator was cooperative he had a great deal of difficulty due to breakdown of equipment. However, the Targhee has had a mild winter and it was reported that by February 7 about 80 percent of the logs had been removed and that it was possible all the infested material could be removed in time. It also was reported that the operator had cut 180 M feet since mid-December which could serve as trap logs.

It is apparent we must pay close attention in the future to see that the skidding and hauling phase of the operation keeps reasonably close pace with cutting.

The Supervisor also has recently (March 10) reported as follows: "An infestation approaching epidemic proportions is reported in both lodgepole pine and Douglas fir on the Swan Valley district in the upper Palisade Creek and Elk Creek drainages. An immediate survey is recommended." He also reports in connection with the trap-log situation discussed above: "In addition a supply of 'trap logs' has been felled to absorb the emergence in the spring of 1944. These logs will be removed from the area by July 15, 1944." He also states "the Douglas fir bark beetle is reported as most severe generally but because sawmills are operating in areas most severely attacked, it is not felt that further control measures are warranted except on the Swan Valley district."

b. Other Forests

The Douglas fir beetle is still active throughout the region and is causing considerable loss.

Salmon: "Douglas fir beetle is still active in the Panther Creek and Yellowjacket Creek areas but there appears to be less activity this year than last. This probably does not indicate that their activities will cease, but will continue until most of the mature timber is killed in these areas."

Sawtooth: "The infestation in Douglas fir is widely scattered over the Forest. The only area in which any noticeable increase was noted was that on the shore of Redfish Lake."

Payette: " . . . quite general in stands of Douglas fir throughout the Forest."

Challis: "There is a limited increase by the Douglas fir beetle."

4. Pine Butterfly (*Neophasia menapia* Feld.)

The pine butterfly was noted last season in greater than usual numbers on both the Boise and Payette Forests. The numbers were nowhere nearly as great as during the bad epidemic of about 1923 but have attracted attention and it may be in view of the dry season which seems to be approaching that a build-up will be effected this season.

They were mentioned as being particularly numerous on the Squaw Creek drainage on the Payette.

5. Mealybug (*Puto* sp.)

Fishlake N. F.

The mealybug infestation in spruce on the Thousand Lake Mountain area of the Fishlake was examined by Dr. Wygant and Mr. Miles in August of last year. Dr. Wygant reports "no tree mortality was noted that could be attributed to the mealybug work". He also states "no prediction can be made as to the outcome."

The Fishlake Forest has made a sale of 200 M feet from near the center of the infestation on the east side of the mountain and reports a road has been built into the timber and some 58 M out. They plan to advertise for sale this year about 2,000 M and state the annual cut will be from 250 to 500 M. While this may not entirely prevent losses it will at least reduce them to the minimum.

6. GENERAL

It has been felt that there probably has been a marked decrease in the efficiency of control crews which it has been possible to obtain during the past two years. Costs are high due to the effect of high wages and the overtime and leave regulations but a consideration of the output per man day indicates the following:

1. Lodgepole Pine

<u>Forest</u>	<u>Year</u>	<u>Trees Treated</u>	<u>Trees Treated per Man Day</u>
Ashley	1941	5,904	3.86
		280	1.22
	1942	1,228	2.12
		365	1.36
	1943	469	4.42
		839	4.24
Wasatch	1940	2,399	2.30
		(7,743	8.45
	1941	(6,984	2.21
		(1,323	.74
		(1,857	.94
		(9,359	1.42
	1942	346	.93
		4,040	1.66
	1943	864	1.08
		169	1.32

2. Ponderosa Pine

Powell	1936	2,180	1.05
	1937	3,303	1.38
	1938	7,013	1.33
	1939	3,830	.91
	1940	16,575	1.38
	1941	5,085	.91
	1942	516	1.17
	1943	2,174	1.06

Output per man day depends upon a good many factors such as size of the job, size of trees, density of attacked trees, topography, weather and others. It is believed that if due consideration could be given to these no material decrease in output is indicated.

The output figures of four plus per effective day on the Ashley in 1943 reflect the relative efficiencies of a "good" crew and the "average" crew.

7. FUNDS

No additional funds will be needed and it is likely it will not be possible to obligate all of the funds which already have been allotted. Your office will be advised with respect to this in April and again in May.

Very truly yours,

W. B. RICE, Regional Forester,

Enclosure.

By

E. L. OLSEN

Acting.

24

INSECT CONTROL SUMMARY

Region IV

C. Y. 1942

Year	Name of Unit	Forest	Duration of Project (incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Per- cent Trees Felled	Expenditures									
										P & M	Cont. Time & Expenses	Total Cost of Project	Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1942	Ashley N. F.		4/1-6/16, 11/4-12/23 10/19 - 11/5	L.P. P.P.	D. monticolae D. ponderosae	Fell, deck, burn "	3,608	1,750	100			7,424.00	494.00	7,918.00	4.52	2.190	-	886	
	Dixie "		5/1 - 6/27 11/3 - 12/19	P.P.	D. ponderosae D. barberi	Fell, peel, burn "	6,480	456	100			2,822.11	42.00	2,864.11	6.25	.442	-	485	
	Minidoka N. F.		7/10 - 7/15	L.P.	D. monticolae	Ortho spray	1,200	103	50			-	65.50	65.50	.64	.055	1.00	200	
	Powell "		11/17 - 12/24	P.P.	D. ponderosae	Felling & burning	2,450	516	100			2,528.17	26.50	2,554.67	4.95	1.040	-	441	
	Wasatch "		5/11 - 7/29 10/19 - 12/5	L.P.	D. monticolae	Felling, deck, burn, Ortho	4,690	4,622	100			20,094.60	1,205.82	21,300.42	4.60	4.540	.94	3391	
						Total for R-4	18,428	7,449	100			32,563.38	1,533.82	34,702.70	4.56	1.883	.60	5403	
C. Y. 1943																			
1943	Ashley N. F.		5/10-6/9 and 10/15 - 12/31 4/19-5/6 and 9/21 - 12/31	P. ponderosae P. contorta lat.	P. ponderosae D. monticolae	Fell and burn " " "	1,000	1,035	100			1,668.00	343.00	2,011.00	1.94	2.01	-	221	
						" " "	640	1,308	100			2,747.00	669.00	3,416.00	2.61	5.34	-	304	
	Catch N. F.		11/8 - 11/10	P. contorta lat.	" "	" " "	20	55	100			50.00	25.00	75.00	1.36	3.75	1.0	8	
	Dixie N. F.		4/20 - 6/19 10/20 - 11/13	P. ponderosae	D. ponderosae D. barberi	" " "	5,490	650	100			6,283.30	114.92	6,409.22	9.86	1.17	-	856	
	Minidoka		July-Dec.-Dec.	P. contorta lat.	D. monticolae	Fell, burn, ortho	45	281	100			425.00	92.60	517.60	1.84	11.28	1.5	69	
	Powell		1/1-3/27; 5/3- 6/30; 11/15 - 12/31	P. ponderosae	D. ponderosae	Felled & burned	22,010	2,174	100			12,899.73	115.61	13,015.34	5.99	.59	-	2,044	
	Wasatch		5/24 - 7/27	P. contorta lat.	D. monticolae	Fell, burn, ortho	3,150	1,023	100			6,626.27	789.00	7,415.27	7.25	2.35	2.1	923	
					Total - D. ponderosae		28,500	3,859	100			26,851.02	573.53	21,474.56	5.55	.75	-	3,125	
					D. monticolae		3,855	2,667	100			9,845.27	1,575.60	11,423.27	6.28	2.96	2.0	1,304	

REMARKS:

INSECT CONTROL SUMMARY

ASHLEY NATIONAL FOREST

Year	Name of Unit	Forest	Duration of Project (Incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Percent Trees Felled	Expenditures									
										(11)	(12)	P & M	Cont. Time & Expenses	Total Cost of Project	Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1942	East Fork of Smith's Fork		4/1 - 6/16	L. P.	D. monticolae	Felled, decked and burned	2,962	1,228	100			4,365.00	260.00	4,625.00	3.77	1.56	-	580	
1942	East Fork of Smith's Fork, Dry Creek, Dahlgreen (upper)		11/4 - 12/23	"	"	"	446	365	97			2,994.00	90.00	3,084.00	8.45	6.91	-	269	
1942	Summit Springs		10/19 - 11/5	P. P.	D. ponderosa	"	200	157	100			55.00	144.00	209.00	1.33	1.04	-	37	
						Total	3,608	1,750	100			7,424.00	494.00	7,918.00	4.52	2.19	-	886	
1943	Hole, Green Lakes, Lost Spring, and Dowd		5/10 to 6/9/43; 10/25 to 2/17/44	P. P.	D. ponderosa	Felled, decked, and burned	1,000	1,035	100			1,668.00	343.00	2,011.00	1.94	2.01	-	221	
1943	Deer Hills		4/19-28/43	L. P.	D. monticolae	"	320	469	100			1,024.00	288.00	1,312.00	2.80	4.10	-	106	
1943	Louse Creek		4/29 to 5/6/43; 9/21 to 1/1/44	"	"	"	320	819	100			1,723.00	381.00	2,104.00	2.81	6.57	-	198	
						Total	1,640	2,343				4,415.00	1012.00	5,427.00	2.32	3.30	-	525	

REMARKS:

INSECT CONTROL SUMMARY

CACHE

NATIONAL FOREST

Year (1)	Name of Unit (2)	Forest (3)	Duration of Project (Incl. dates) (4)	Tree Species Affected (5)	Insect Responsible (6)	Method Followed (7)	Acres Treated (8)	Trees Treated (9)	Percent Trees Felled (10)	Expenditures				Total Cost of Project (15)	Total Cost per Tree (16)	Total Cost per Acre (17)	Oil Used Gal. per Tree (18)	No. Man Days Used (19)	Percent Reduction Obtained (20)
										(11)	(12)	P & M (13)	Cont. Time & Expenses (14)						
1943		Cacha	11/8 to 11/10	P. contorta lat.	D. monticolae	Fell and burn	20	55	100			50.00	25.00	75.00	1.36	3.75	1.0	8	

INSECT CONTROL SUMMARY

DIXIE NATIONAL FOREST

Year	Name of Unit	Forest	Duration of Project (Incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Per- cent Trees Felled	Expenditures									
												P & M	Cont. Time & Expenses	Total Cost of Project	Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1942	Strawberry-Swaine #2		6/1 - 6/27 11/9 - 12/19	P. P.	D. ponderosa D. barberi	Fell, peel and burn	6,480	458	100			2,822.11	42.00	2,864.11	6.25	.442	-	485	
1943	Upper Mammoth #3		4/20-6/15	P. P.	" " "	" " "	2,840	553	100			4,155.30	10.00	4,275.74	7.73	1.51	-	578	
1943	Strawberry-Swaine #2		10/21-11/3	"	" " "	" " "	750	18	100			366.00	6.40	372.40	20.69	.50	-	49	
1943	Pangnitch Lake #6		10/20-11/13	"	" " "	" " "	1,900	72	100			1,742.00	28.08	1,760.08	22.28	.93	-	233	
					Total 1943		11,470	1,101	100			8,985.41	114.92	9,458.32	9.86	1.17	-	850	

REMARKS:

INSECT CONTROL SUMMARY

MINIDOKA NATIONAL FOREST

Year	Name of Unit	Forest	Duration of Project (Incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Percent Trees Killed	Expenditures									
										(11)	(12)	P & M	Cont. Time & Expenses	Total Cost of Project	Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1942	Cassia Division		7/10 - 7/15	L. P.	D. monticolae	Ortho		59	None				19.50	19.50	.33	-	Oil on hand and no record	-	-
"	Sublett Division		"	"	"	"		44	100				46.00	46.00	1.05	-	Maint.	-	-
1943	Ecklund Compartment - Burley-Oakley Working Circle		July	"	"	Ortho - Oil	4	19	100			32.00	2.00	34.00	1.78	8.55	1-1/2	4-1/4	*
1943	Coal Pit Compartment - Burley-Oakley Working Circle		"	"	"	"	8	35	100			57.00	4.00	61.00	1.74	7.62	1-1/2	7-1/4	"
1943	Basin Patch Compartment - Burley-Oakley Working Circle		"	"	"	"	2	16	100			28.00	2.00	30.00	1.88	15.00	1-1/2	3-1/4	*
1943	1st & 2nd Fork Compartment - Burley-Oakley Working Circle		"	"	"	"	4	20	100			32.00	5.47	37.47	1.87	9.37	1-1/2	4	*
1943	Cottonwood Compartment - Burley-Oakley Working Circle		"	"	"	"	6	24	100			40.00	2.00	42.00	1.75	7.00	1-1/2	5-1/4	"
1943	Sawmill Compartment - Burley-Oakley Working Circle		"	"	"	"	8	40	100			60.00	10.94	70.94	1.77	8.87	1-1/2	9	*
1943	Cottonwood Compartment Cotton Ridge Point Burley-Oakley Working Circle		October	"	"	Sowed by local mill. Burned stumps and peeled stumps	2	21	100			-	2.73	2.73	.13	1.36	-	-	Permitted under Adm. Use.
1943	Cottonwood Compartment South Boettger Burley-Oakley Working Circle		December	"	"	Decked and burned	6	79	100			176.00	9.46	185.46	2.35	30.90	-	27	*
1943	Lower Rock Creek		July	"	"	Ortho - Oil	5	27	100			-	54.00	54.00	2.00	10.80	1-1/2	9	*
Total 1943												425.00	92.60	517.60	1.84				

* No survey made in 1942 to secure check on percent of reduction obtained.

REMARKS: 1942 - All infested trees found were treated.

INSECT CONTROL SUMMARY

POWELL NATIONAL FOREST

Year	Name of Unit	Forest	Duration of Project (Incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Per- cent Trees Felled	Expenditures				Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained
										P & M	Cont. Time & Expenses	Total Cost of Project						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1942	Horse Creek Unit	Powell	11/17 - 12/24	P. P.	D. ponderosae	Felling & burning	2,450	516	100			2,528.17	26.50	2,554.67	4.95	1.04	-	441
1943	Park No. 2	"	12/28 - 3/27	"	"	"	9,330	1187	100			7,653.79	-	7,653.79	6.45	.82	-	1214
	Sweetwater Unit	"	3/3 to 5/8	"	"	Felling & peeling	1,820	41	100			185.84	-	185.84	4.53	.10	-	30
	Blue Fly Unit	"	5/10 to 6/30	"	"	"	6,300	456	100			1,839.58	-	1,839.58	4.03	.29	-	302
	Badger Unit No. 3	"	11/15 - 12/31	"	"	Felling & burning	4,500	490	100			3,220.52	115.61	3,336.13	6.81	.74	-	498
								1,170										(Treating continued in Jan. Total of 570 trees on unit. 540 treated to 1/11/44)

(Treating continued in Jan. Total of 570 trees on unit. 580 treated to 1/11/44)

REMARKS:

INSECT CONTROL SUMMARY

WASATCH NATIONAL FOREST

Year	Name of Unit	Forest	Duration of Project (Incl. dates)	Tree Species Affected	Insect Responsible	Method Followed	Acres Treated	Trees Treated	Per- cent Trees Felled	Expenditures				Total Cost of Project	Total Cost per Tree	Total Cost per Acre	Oil Used Gal. per Tree	No. Man Days Used	Percent Reduction Obtained	
										P & M	Cont. Time & Expenses									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
1942	Wyoming Unit	Wasatch	5/11 - 6/18	L. P.	D. monticolae	Fell, deck, burn	1,847	346	100			1,545.98	91.50	1,637.48	4.73	.89	-	372	No survey	*
*	Iron Mine		6/7 - 7/29	*	" "	" " " " Ortho, felled	2,000	(1132)	100			14,982.64	663.50	15,646.14	3.87	7.83	1.5	2,435	93.6%	**
								(2908)	100											
								8040												
*	Fish Creek		10/19 - 12/5	*	" "	Fell, deck, burn	843	(236)	100			3,225.98	353.82	2,481.80	10.50	4.80	-	584		
								(784)	spotted, not treated, cost:			1,340.00	135.00	1,535.92	1.96					
												3,565.98	450.82	4,016.80						
						Total for C. Y. 1942	4,690	4,622	100			20,094.60	1,205.32	21,300.42	4.60	4.54	-	3,391		
									Plus 784 spotted					\$	\$	\$				
												# Includes cost of spotting 784 trees yet to treat and an inventory of approximately \$1,000 worth of ortho, oil, hay, oats, food, etc.								
1943	Iron Mine Unit		5/24 - 7/28	L. P.	D. monticolae	Ortho, felled	2,550	864	100			5,765.27	686.00	6,451.27	7.46	2.53	2.1	803	76.9	Successful
	Broadhead-Haystack Unit		6/18 - 7/27	*	" "	" " " "	600	158	100			861.00	103.00	964.00	6.06	1.60	2.0	120	-	Partial clean-
	Total for calendar year 1943						3,150	1,023	100			6,626.27	789.00	7,415.27	7.25	2.35	2.1	923		up only

REMARKS: * Believed successful
 ** Some clean-up necessary